

# **A CENTRALIZED INTERIM STORAGE FACILITY FOR USED NUCLEAR FUEL**

**A PARTNERSHIP OF  
THE EDDY-LEA ENERGY ALLIANCE  
AND  
HOLTEC INTERNATIONAL**

**PRESENTED TO  
THE ECONOMIC DEVELOPMENT COMMITTEE**

By: John Heaton, Vice Chairman ELEA, LLC

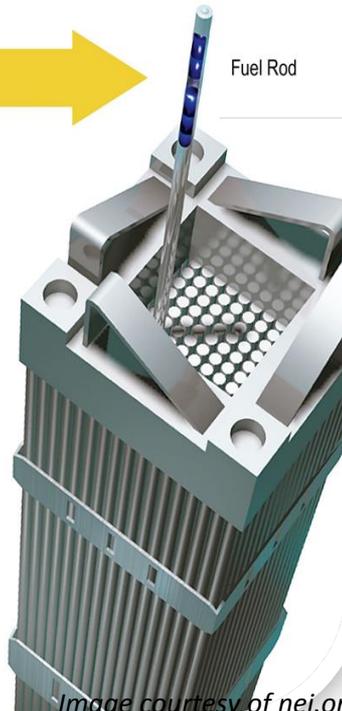
# Fuel Rods and Fuel Assemblies in Wet Storage



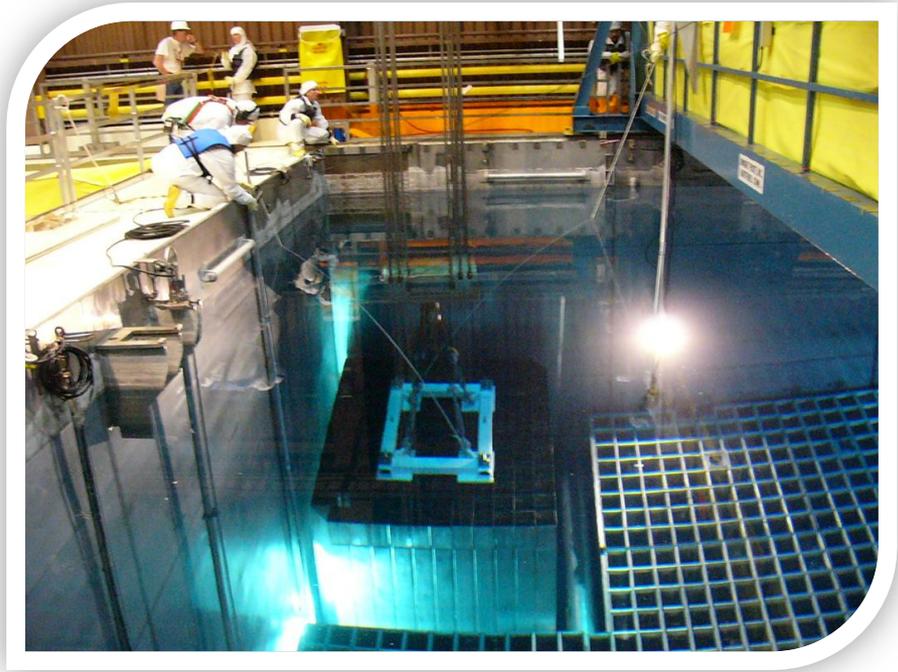
Fuel Rod

Uranium fuel: solid ceramic pellets.  
The uranium fuel at nuclear energy facilities arrives as small, ceramic pellets inserted and sealed into long, vertical metal alloy tubes or rods. Inside the reactor vessel, or the core, nuclear fission produces heat to create steam that powers electricity-producing generators. Uranium fuel is a solid material and cannot explode.

Fuel Assembly



*Image courtesy of nei.org*



# Spent Fuel Assemblies in Dry Storage

✓ Spent fuel assembly (either PWR or BWR) is removed from the spent fuel pools

✓ Holtec's Multi-Purpose Canister (MPC) stores the spent fuel assemblies

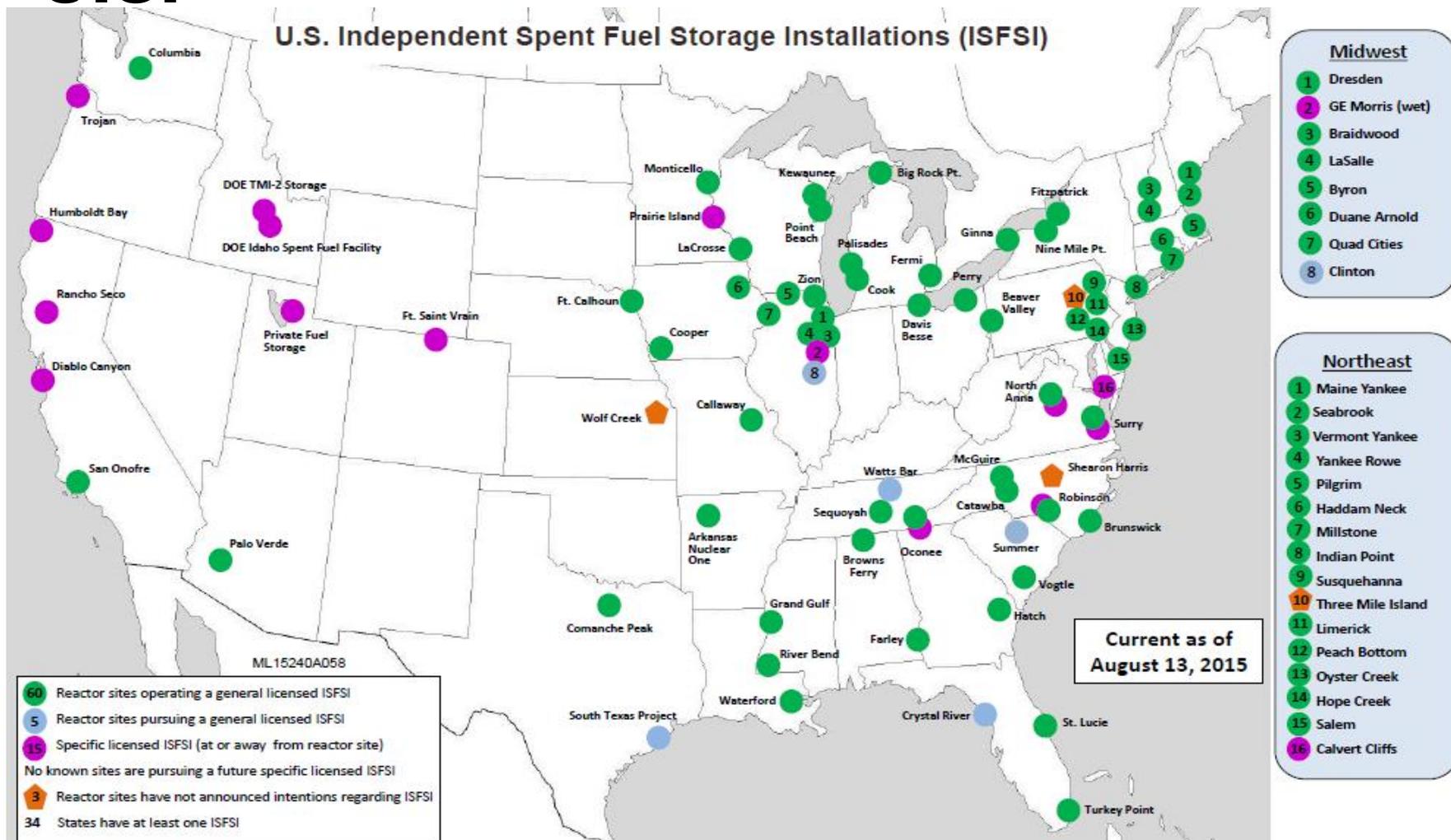
✓ Holtec's MPCs are stainless steel

✓ MPCs are stored in the HI-STORM dry storage system, providing interim storage for spent fuel assemblies

✓ MPCs are stored in either the aboveground or belowgrade configuration



# Interim Dry Storage Sites in the U.S.



Map courtesy of Ux Consulting, StoreFuel, SIF206, 10/6/15

# Why Do We Need Consolidated Interim Storage?

- CIS is a perfect compliment to a future repository – not a permanent solution
- CIS is a safe and secure way to age the fuel before storage at a future repository site
- Recommended by the BRC
- At 13 decommissioned sites, the spent fuel stored on-site is all that prevents from releasing the land to other uses
- CIS is the shortest path for DOE to begin taking spent fuel and reduce the amount the government pays as a result of lawsuits
  - ✓ By 2020 projected cost to be \$22 billion & \$38 billion by 2048
  - ✓ Currently projected at \$500M per year by 2020
- Provides the most flexibility for recycling, research, and disposal
- Dispels Arguments There Are No Solutions For SNF

# Who is the EDDY-LEA Alliance?

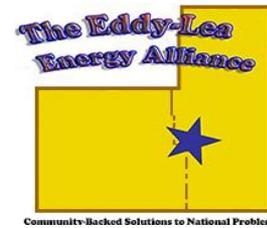
- Alliance of the Cities of Carlsbad & Hobbs and the Counties of Eddy & Lea
- Formed Under the Local Economic Development Act for Economic Development Purposes in 2006 & to Respond to Global Nuclear Energy Partnership (GNEP) Proposal from DOE
- ELEA purchased 1,000 acres of land approximately halfway between Carlsbad and Hobbs, N.M. for use

**The Eddy-Lea  
Energy Alliance**



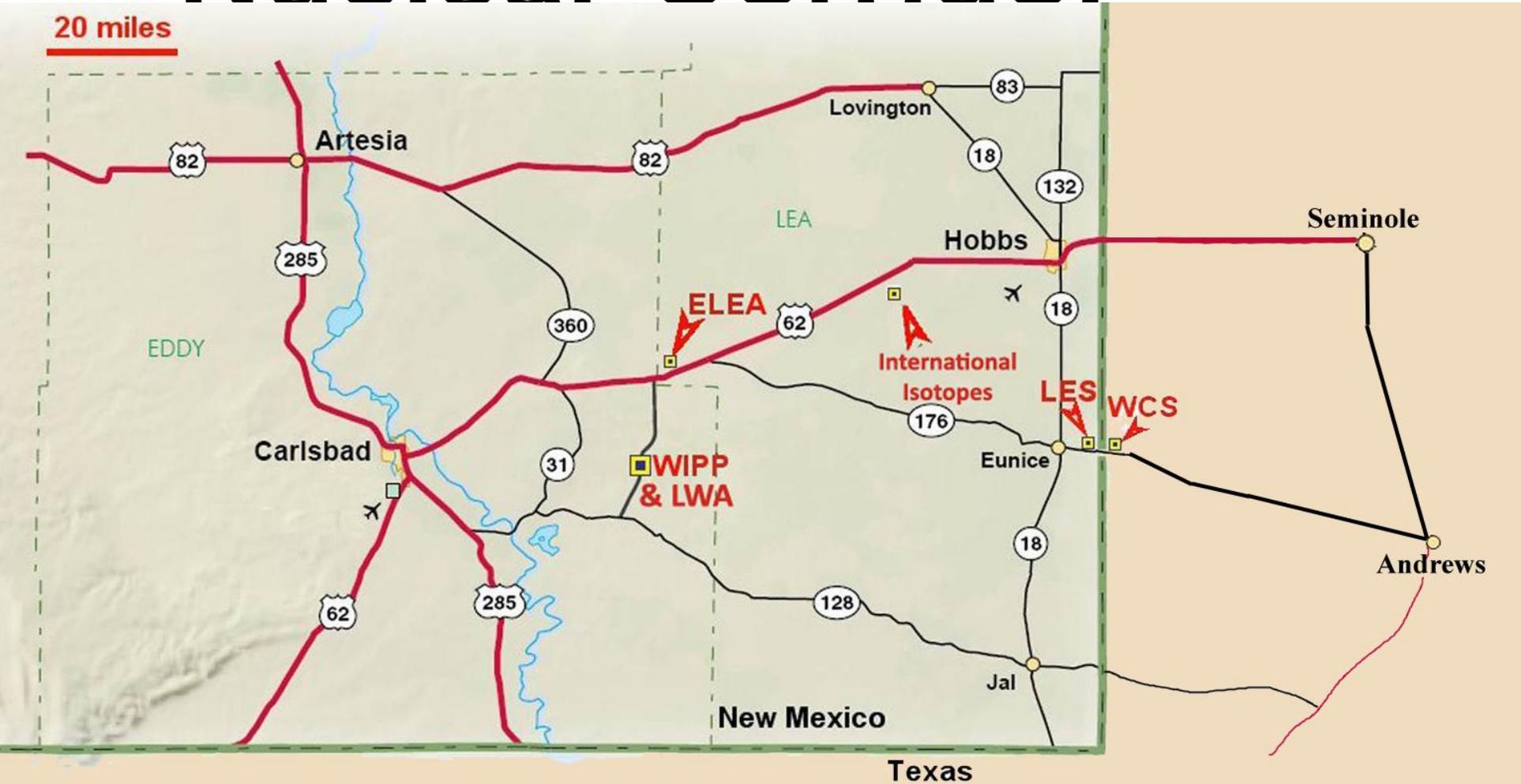
**Community-Backed Solutions to National Problems**

# Why the ELEA Site?



- Land studied extensively during Global Nuclear Energy Partnership (GNEP) process
- Remote location
- Geologic stability
- Dry area
- Infrastructure present, including rail
- Preexisting robust scientific and nuclear operations workforce
- **STRONG CONSENT FROM AREA**

# SE New Mexico's Nuclear Corridor

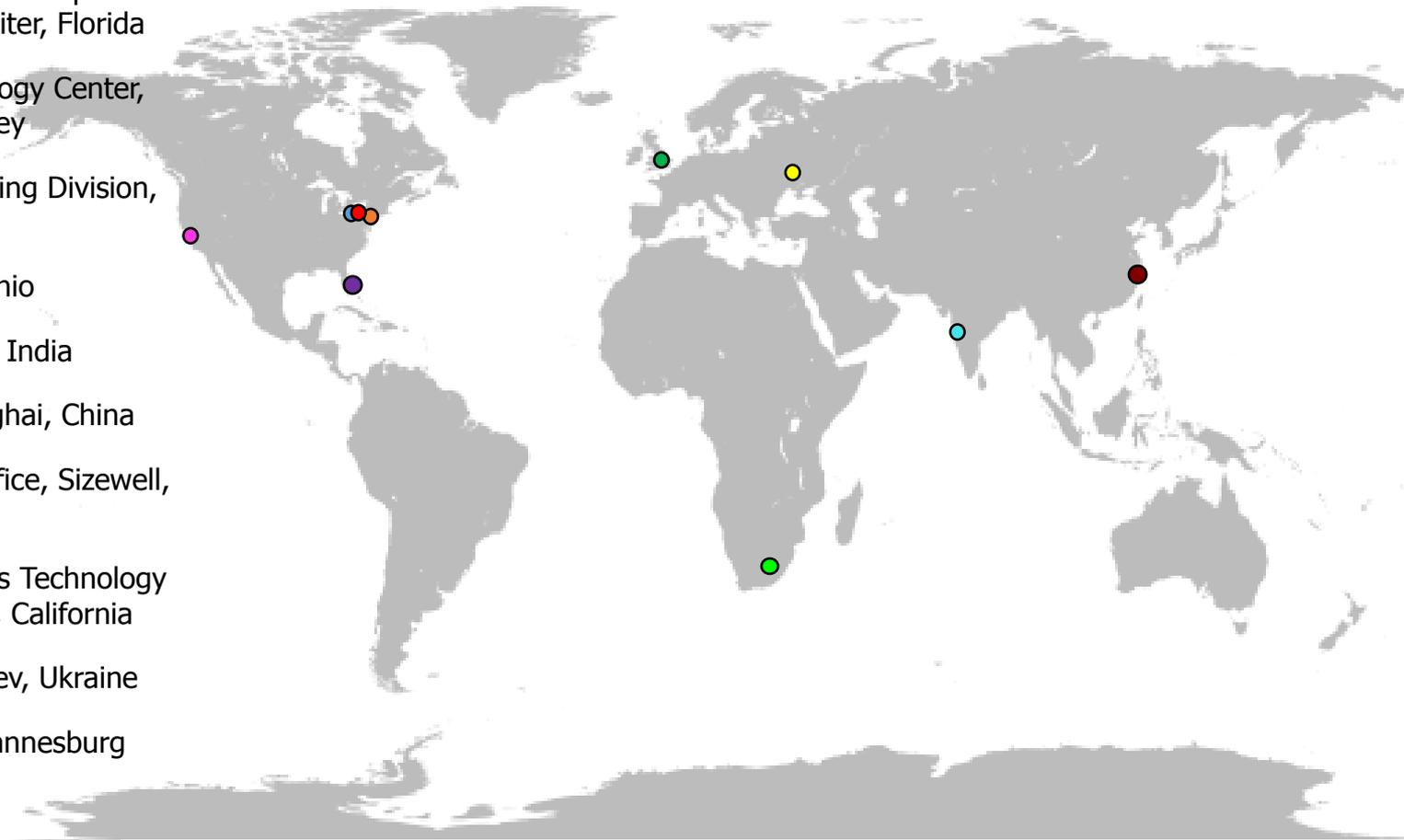


# Holtec International

- Established in 1986
- Excellent on-time delivery record
- No history of long-term debt
- Self financed company growth
- Highest industrial credit rating [D&B-5A1]
- Business Mix:
  - ✓ 72% Nuclear
  - ✓ 15% Coal, 10% Gas & Renewables, 3% O&G

# Holtec's International Presence

- Holtec International Corporate Headquarters, Jupiter, Florida
- Corporate Technology Center, Marlton, New Jersey
- Holtec Manufacturing Division, Pittsburgh, PA
- Orrvilon, Orville Ohio
- Holtec Asia, Pune, India
- Holtec Asia, Shanghai, China
- Holtec Satellite Office, Sizewell, United Kingdom
- Air Cooled Systems Technology Center, San Diego, California
- Holtec Ukraine, Kiev, Ukraine
- Holtec Africa, Johannesburg

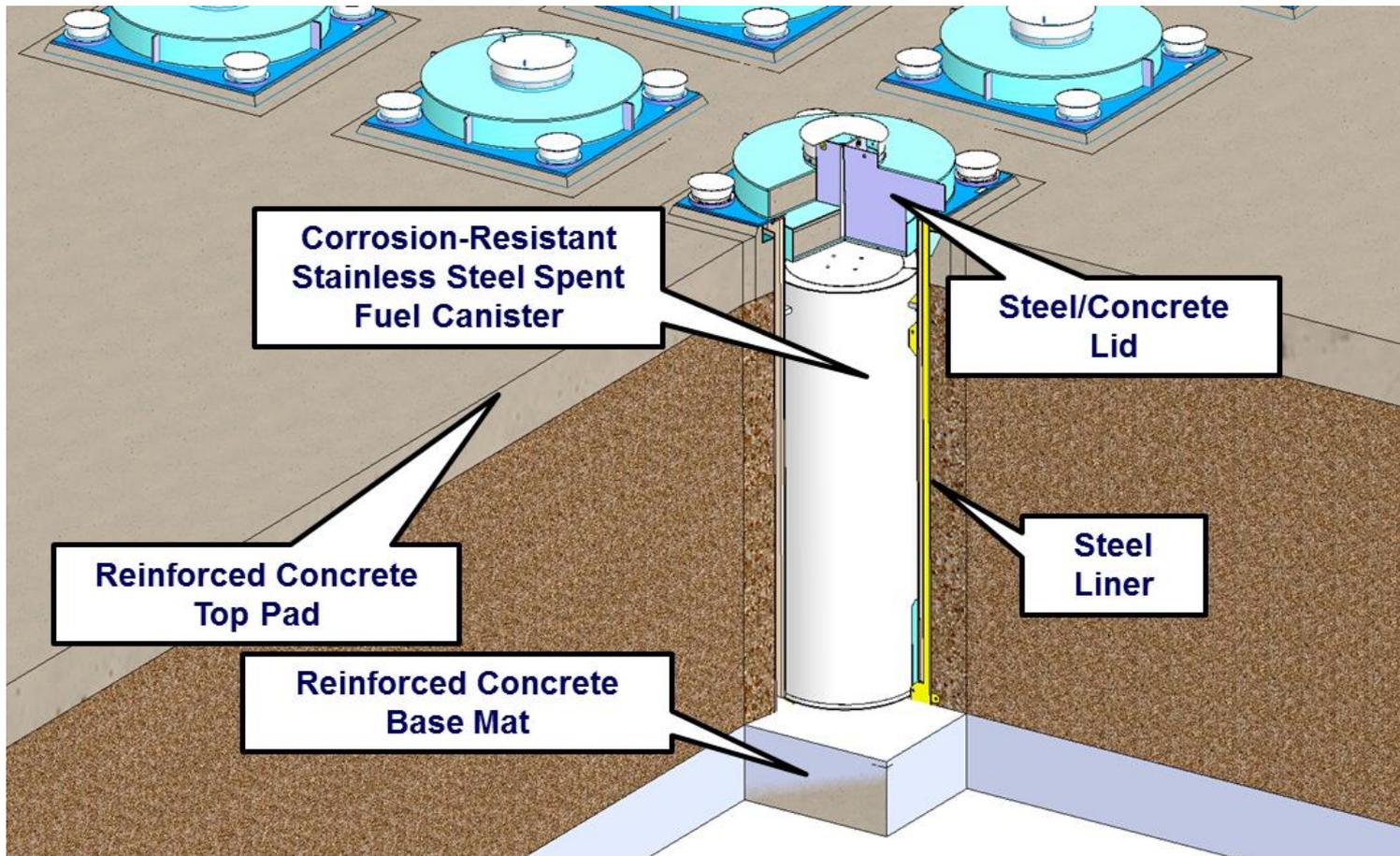


# HI-STORM UMAX: The Safest Solution for C.I.S.



*Holtec constructed the HI-STORM UMAX at a U.S. nuclear power plant*

# HI-STORM UMAX: Stores Spent Nuclear Fuel Completely Below Grade



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# Phase 1 Construction

Secure Area

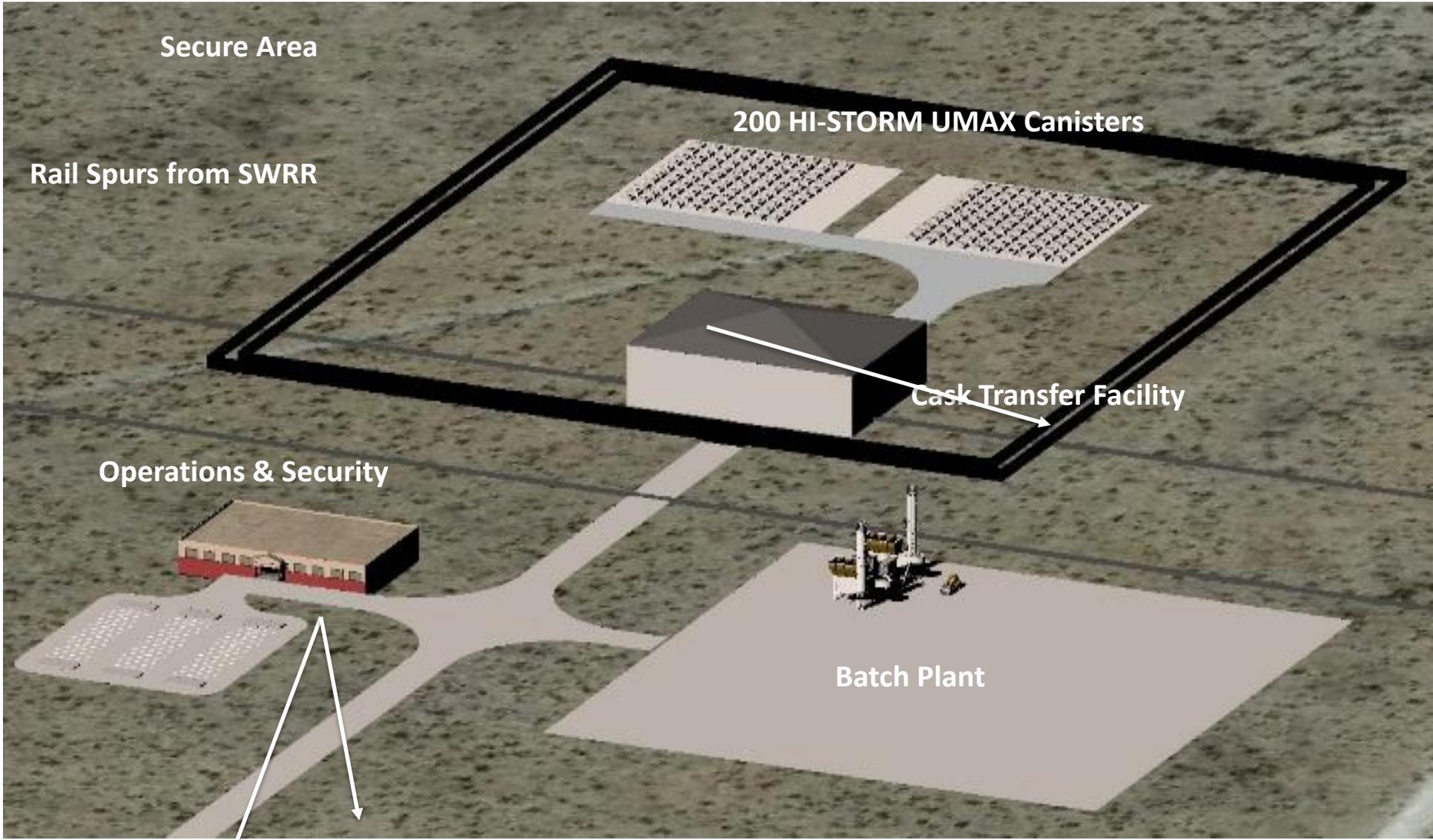
Rail Spurs from SWRR

200 HI-STORM UMAX Canisters

Cask Transfer Facility

Operations & Security

Batch Plant



# Excavation



# CEC Placement



# CLSM Pour

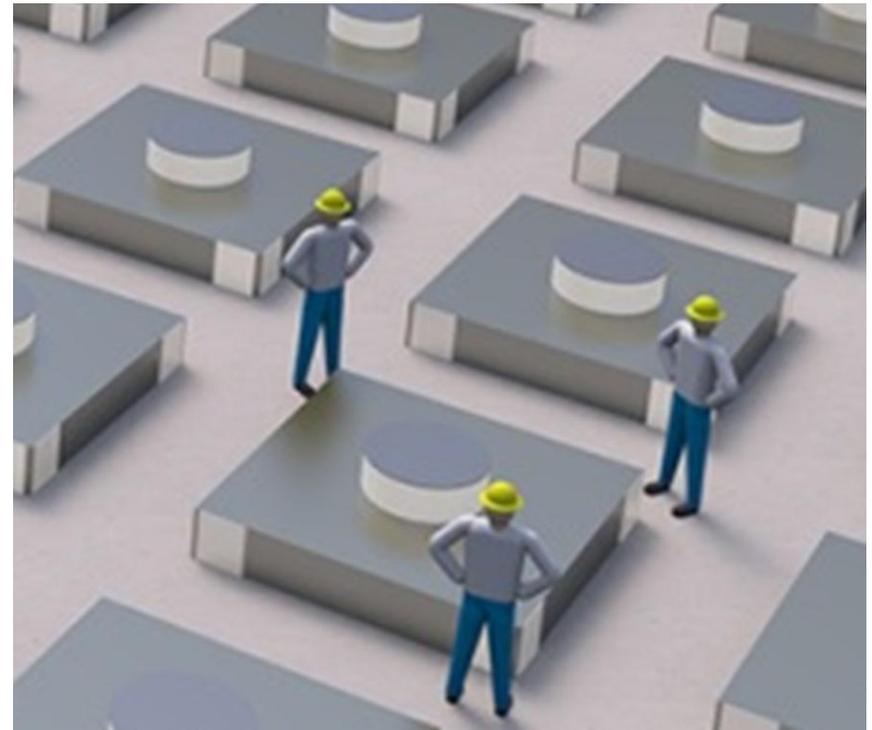


# Form for Top Pad



# Enhanced Security

- Configured to be visually inconspicuous
  - Profile is less than 610 mm (2 ft.) tall
  - A less visible target from the air
  - Reduced visibility from public land
- There are no areas on the ISFSI where a person may hide, making security an easily implemented activity

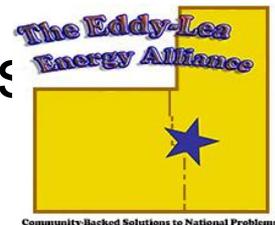


# Turning Plans into Actions

- Holtec will support the prompt development of the consolidated interim storage site
  - ✔ Holtec believes our underground dry storage technology is a perfect solution for a CIS facility
  - ✔ Holtec has partnered with Eddy Lea Energy Alliance, LLC to establish a CIS
  - ✔ Holtec will design, license and operate the CISF
- Holtec has constructed an underground dry storage facility in the U.S. which is now in use

# Conclusion

- Viable solution for Nation's SNF issue
  - ✓ Available for storage in 5 years
  - ✓ Project in our wheelhouse – legislation must pass
  - ✓ Proven Technology: Holtec UMAX Certified by NRC
  - ✓ Licensing Experience: Private Fuel Storage & Ukraine
  - ✓ Strong State & Local Support
  
- Benefits to NM Revenue & Jobs
  - ✓ \$1.2 Billion Capital in \$200 K increments
  - ✓ 150 Full time employees



# Why Nuclear in New Mexico?

- Nuclear is Number One Opportunity for Growth. We Are Grounded in Nuclear Ops
- We Are a Nuclear State
  - 2 National Laboratories
  - Nuclear Engineering at UNM
  - Kirtland AF Base
  - Los Alamos has Enormous Isotope Capability
- Typical 1000 MW Generator = 750 Jobs
- Isotopes, SMR's, Medical, Industrial

# QUESTIONS ABOUND

